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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/075,536 | 02/14/2002 | Jens Dieckroger | M&N-IT-242 | 8479 |
| 27130 | 7590 | 03/11/2004 | EXAMINER | |
| EITAN, PEARL, LATZER & COHEN ZEDEK LLP | | | LE, QUE TAN | |
| 10 ROCKEFELLER PLAZA, SUITE 1001 | | | ART UNIT | |
| NEW YORK, NY 10020 | | | PAPER NUMBER | |
| | | | 2878 | |

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|-------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/075,536 | Applicant(s) DIECKROGER ET AL. | |
| | Examiner Que T. Le | Art Unit 2878 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the Amendment filed November 19, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) 3 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13 and 17-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

This is in response to Applicants' amendment filed November 19 2003.

The disclosure is objected to because of the following informalities: In claim 14 (from the amendment filed 11/19/03), on line 5, "te" should be changed to "the".

Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirataka et al (EP 0723171).

Hirataka et al disclose an optical module comprising a planar light circuit having an optical channel (2); a trench (4, 5) formed in the circuit for interrupting the optical channel; and a detection unit (12) disposed in the trench for detecting optical signals in

the channel. The detection unit includes a support submount including metal electrodes (6, 7) and solder bumps (8).

Claims 1, 2, 4-8, 10, 11 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al (EP 0807981).

Yamamoto et al disclose an optical module comprising a planar light circuit having optical channels (13b); a trench (Figures 9-11, 15-17) formed in the planar light circuit for interrupting the optical channels; and a detection unit with photodiodes (PD1, PD2) disposed in the trench for detecting optical signals in the channels. The detection unit is being mounted on a support transparent substrate (1) by solder bumps and electrodes including a common electrode (at least in columns 19-29).

The Yamamoto et al optical module inherently performs the claimed method steps of claims 17 and 18.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al (EP 0807981).

With respect to claim 9, although Yamamoto et al lack a clear inclusion of the use of gold metalizations, the use of gold metalizations or gold electrodes or gold contacts

would have been known and being available in the art and selecting gold metalizations or gold electrodes for providing contacts or conductor tracks in an electrical system would have also been obvious to one of ordinary skill in the electrical art. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto et al accordingly in order to provide better contacts between the photodiodes and the signal processing of the module.

With respect to claims 12 and 13, although Yamamoto et al fails to specify whether or not the photodiodes are "laser-soldered" on the support submount and whether or not the detection unit is tightly inserted into the trench. These features are considered the manner of forming or installation operation or method of forming the optical module, however, selecting a specific manner for mounting/inserting components/elements into a housing module or system would have been obvious to one of ordinary skill in the art in order to provide a more convenience in installation/replacement of the components of the optical module. It would have been obvious to one of ordinary skill in the art to modify Yamamoto et al accordingly in order to provide a more compact optics design for the optical module.

Claims 14-16 are allowable over the prior art of record.

Applicant's arguments filed November 19, 2003 have been fully considered but they are not persuasive.

With respect to Applicants' arguments, on page 3 of the remarks, that Hirataka reference does not disclose a support submount attached to the planar circuit, a detection unit disposed on the support submount, this is incorrect statements. Applicants attention is directed to the Examiner Office Action, in which stated a detection unit (12) disposed in the trench, attached to the planar circuit by a support submount (6, 7, 8) wherein the support submount could be any elements of elements 6, 7 and/or 8, and the support submount including at least a metal electrode and at least one solder bump (See also, Figures 5B, 5C, 6 and 7). Thus, Hirataka reference discloses the claimed invention.

With respect to Applicants' argument, on pages 3-5 of the remarks, regarding the Yamamoto reference, it is noted that, in Yamamoto reference, photodiodes (PD1, PD2) is disposed or attached to the planar circuit by at least one support submounts (a buffer layer 4, an absorption layer 5, n-type diffusion layer 6, p-type diffusion layer 7, electrode 8 or with a solder bump on the n-type electrode 11). The mounting method including a flip-chip mounting manner (See at least Figures 9-17, and columns 18-29). Thus, the Yamamoto reference discloses the claimed invention.

With respect to Applicants' arguments, on page 5 of the remarks, regarding motivation for the obviousness rejection, this is not found persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art.

See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to modify the reference, as stated above, found in the knowledge generally available to the examiner.

Accordingly, the rejection set forth above is proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Que T. Le whose telephone number is (571) 272-2438.

Art Unit: 2878

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Que T Le
Primary Examiner
Art Unit 2878